WHAT IS CLAIMED IS:

1. A microstructure comprising a support substrate and a movable plate, in which the movable plate is supported by an elastic support portion so that the movable plate can be freely torsion-vibrated to the support substrate about a torsion axis, wherein

the elastic support portion has at least one concave portion,

at both ends of a first section in which the concave portion is formed, a second section in which the concave portion is not formed is arranged, and

the second section connects with the movable plate and the support substrate.

2. The microstructure according to claim 1, wherein a length of the first section is not shorter than a half of the entire length of the elastic support portion in length in the torsion-axis direction.

3. The microstructure according to claim 1, wherein the first section has a third section in which a depth of the concave portion increases as approaching to the center of the first section along the torsion-axis direction, and wherein the third section connects with the second section.

4. The microstructure according to claim 1, wherein the support substrate, elastic support portion, movable plate and concave portion are integrally formed of a single-crystal material.

5. The microstructure according to claim 4, wherein the single-crystal material is single-crystal silicon.

6. The microstructure according to claim 5, wherein the elastic support portion is constituted by (100) and (111) equivalent planes of a silicon crystal plane.

7. The microstructure according to claim 5, wherein the concave portion is constituted by (111) equivalent plane of a silicon crystal plane.

8. The microstructure according to claim 1, wherein the first section has a V- or X-shaped cross section in a plane vertical to the torsion axis.

9. A micro optical deflector comprising the microstructure of claim 1, driving means for relatively driving the support substrate and the movable plate, and a reflection plane formed on the movable plate to reflect light.

10. An optical apparatus comprising the micro optical deflector of claim 9.

11. An image display apparatus comprising a light source and a micro optical deflector or a micro optical deflector group in which at least one micro optical deflector of claim 9 for deflecting the light emitted from the light source is set,

wherein at least a part of the light deflected by the micro optical deflector or micro optical deflector group is projected onto an image display body.

12. A microstructure fabrication method comprising:

a step of forming mask layers on both faces of a silicon substrate;

a step of removing the mask layer on a first face among the mask layers but leaving the mask layer on contour portions of a support substrate, an elastic support portion and a movable plate;

a step of removing the mask layer at the opposite side of the first face among the mask layers but leaving the mask layer on contour portions of the support substrate, the elastic support portion and the movable plate, and removing the mask layer on a portion for forming a concave portion of the elastic

support portion;

a step of dividing the silicon substrate into the support substrate, the elastic support portion and the movable plate and forming a concave portion on the elastic support portion by immersing the silicon substrate in an alkaline aqueous solution to subject the substrate to anisotropic etching; and

a step of removing the mask layer on the silicon substrate.

13. A microstructure fabrication method comprising:

a step of forming mask layers on both faces of a silicon substrate;

a step of removing the mask layers on the both faces of the silicon substrate but leaving the mask layers on contour portions of a support substrate, an elastic support portion and a movable plate, and removing the mask layer on a portion for forming the concave portion of the elastic support portion;

a step of dividing the silicon substrate into the support substrate, the elastic support portion and the movable plate and forming a concave portion on the elastic support portion by immersing the silicon substrate in an alkaline aqueous solution to subject the substrate to anisotropic etching, and

a step of removing the mask layer on the silicon substrate.